

REMARKS

By the above amendment, the specification has been amended to overcome the objection the disclosure, it being noted that a Supplemental Information Disclosure Statement was filed on January 27, 2005. Additionally, by the present amendment, claim 1 has been amended to utilize consistent terminology with claims 2 and 3 being canceled, it being noted that claims 4 - 6 have been previously canceled. Furthermore, new claims 7 - 22 have been presented wherein claims 7 - 9 depend directly or indirectly from claim 1 and claim 10 is a new independent claim with claims 11 - 22 depending directly or indirectly therefrom. Also, the abstract has been amended to delete the reference numerals therein.

The rejection of claim 1 under 35 USC 102(b) as being anticipated by US Patent No. 6,286,230 to White et al is traversed and reconsideration and withdrawal of the rejection are respectfully requested.

As to the rejection of claim 2 under 35 USC 102(b) as being anticipated by Japanese Patent No. 08-127861 A to Naito et al and the rejection of claim 3 under 35 USC 103(a) as being unpatentable over US Patent No. 6,312,525 to Bright et al in view of US Patent No. 6,051,281 to Kobayashi et al, such rejections are considered to be obviated by the cancellation of claims 2 and 3 such that discussion of the cited art in relation to such claims is considered unnecessary.

As to the requirements to support a rejection under 35 USC 102, reference made to the decision of In re Robertson, 49 USPQ 2d 1949 (Fed. Cir. 1999), wherein the court pointed out that anticipation under 35 U.S.C. §102 requires that each and every element as set forth in the claim is found, either expressly or inherently described in a single prior art reference. As noted by the court, if the prior art reference does not expressly set forth a particular element of the claim, that

reference still may anticipate if the element is "inherent" in its disclosure. To establish inherency, the extrinsic evidence "must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill." Moreover, the court pointed out that inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.

Turning to claim 1, such claim recites the feature of a vacuum processing apparatus as generally illustrated in Figures 1(a), 1(b) and 2(a), for example, wherein the vacuum processing apparatus 100 includes a transfer unit 105 disposed at a center thereof and plural processing chambers with two processing chambers 103 and two processing chambers 104 being illustrated, the processing chambers 103 being described as etching chambers and the processing chambers 104 being described as ashing chambers. Each processing chamber 103, 104 has a processing table for supporting an object to be processed and carries out processing using a gas as described in the specification of this application. In accordance with the present invention, and as recited in claim 1, a mass flow controller unit 107 is interposed between two of the plural processing chambers 103 and 104. As more clearly seen in plan view in Fig. 2(a), the mass flow controller unit 107 is interposed between an etching processing chamber 103 and an as being processing chamber 104 and serves for supplying gas to the two processing chambers. That is, page 11, lines 7 - 11 of the specification indicates that a control unit 107 includes a mass flow controller for controlling the feeding of gas and fluid required in the units or processing chambers, with the control unit 107 being disposed between and adjacent to the processing units 103 and 104. As illustrated in Fig. 4 and as

described at pages 20 - 22 of the specification, the control unit 107 which is located between the etching 103 and the ashing unit 104 has plural flow controllers disposed therein for controlling the amount and rate of flow of processing gases to be supplied to the etching unit 103 and the ashing unit 104 and the gas or refrigerant for controlling the temperature of the wafer or wafer holder within the chamber. Especially, the flow controller for the etching unit is disposed on the upper area and the flow controller for the ashing unit is disposed on the lower area within the control unit 107 with upper and lower access doors 401 and 402 being disposed on the control unit 107 enabling access to the devices. Applicants submit that the aforementioned features are recited in independent claim 1 and the dependent claims and independent claim 10 and the dependent claims thereof, and such features are not disclosed or taught in the cited art.

In applying White et al to the features of claim 1 under 35 USC 102, the Examiner contends that White et al disclose "a mass flow controller (69; column rows 11-14 and 35-40) interposed between two processing chambers for supplying gas to the chambers." (emphasis added) Applicants note that it is not apparent to what column the Examiner is referring to, but applicants note that "69" is described in column 8, lines 17 - 19 of White et al as an "adjustable orifice 69" which is utilized for setting the rate of gas flow from supply 38 into the buffer region 22. On the other hand, as illustrated in Figure 3 of White et al, a controller 90 is provided and as described in column 6, lines 48 - 55, "a controller 90 (Fig. 3) controls and coordinates the positions of the flow valves 48-52, 60-64, 68, the vacuum valves 80 - 88 and the chamber isolation valves 28-34 during the various stages of substrate processing and substrate transfer. If mass flow control valves are used instead of manual needle valves, then the controller 90 also controls the mass flow control valves as

well." (emphasis added). The location of the controller 90 is not described in the specification of White et al, nor illustrated in the drawings thereof, and applicants submit that assuming arguendo that the plural processing chambers are represented by 10A and 10B, as suggested by the Examiner, there is no disclosure or teaching in White et al, that the controller 90, which may be considered a mass flow controller, is interposed between two of the plurality of processing chambers as recited in claim 1 in the sense of 35 USC 102 nor that plural control units are provided and disposed between processing chambers in the manner recited in the dependent claims 7 - 9 in the sense of 35 USC 102 or 35 USC 103 such that the claims should be considered allowable over White et al.

With respect to the newly added dependent claims which depend from claim 1, applicants note that such claims 7 - 9 recite the feature of the two of the plural processing chambers being coupled to the transfer unit so as to be adjacent one another with the mass flow controller interposed therebetween and that the two chambers are detachably connected to the transfer unit with the mass flow controller including a first mass flow control unit for supplying gas to one of the two adjacent processing chambers and a second mass flow control unit for supplying gas to another of the two adjacent processing chambers with the first and second mass flow controller units being disposed with respect to one another in a vertical direction. It is apparent that such features are not disclosed or taught by White et al in the sense of 35 USC 102 or 35 USC 103. New independent claim 10 recites similar features to that of independent claim 1 in reciting plural controllers for controlling the supply of the processing gas into each of the two vacuum processing chambers, with the plural controllers being disposed between the two vacuum processing chambers which are disposed adjacent to one another. As pointed out above, White et al

provides no disclosure or teaching of such features. Dependent claims 11 - 22 recite additional features of the present invention including the detachable connection of the vacuum processing chambers to the transfer chamber, which transfer chamber has a polygonal shape and the two vacuum processing chambers being disposed on respective sidewalls forming two adjacent sides of the polygonal shape of the transfer chamber. Other dependent claims recite the feature that the plural controllers are disposed adjacent one another in a vertical direction and are disposed in a space between the two adjacent vacuum processing chambers with the plural controllers being detachable from the vacuum processing apparatus as one unit, and hereagain, such features, are not disclosed or taught by White et al in the sense of 35 USC 102 or 35 USC 103. Accordingly, applicants submit that all claims present in this application patentably distinguish over White et al and should be considered allowable thereover.

With regard to the other art cited and not applied to claim 1, as apparently recognized by the Examiner, such art does not disclose the claimed features of independent claims 1 and 10 and the dependent claims thereof, such that further discussion thereof is considered unnecessary.

In view of the above amendments and remarks, applicants submit that all claims present in this application should now be in condition for allowance and issuance of an action of favorable nature is courteously solicited.

To the extent necessary, applicants petition for an extension of time under 37 CFR 1.136. Please charge any shortage in the fees due in connection with the filing of this paper, including extension of time fees, to the deposit account of Antonelli,

Terry, Stout & Kraus, LLP, Deposit Account No. 01-2135 (Case: 648.43120X00),  
and please credit any excess fees to such deposit account.

Respectfully submitted,

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